

B5
Out paper is provided as the second web (5, 25).

REMARKS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments and the following remarks.

This will make of record a telephone conference between Patent Examiner Nasser Ahmad and the undersigned attorney, Ed Freedman, on January 23, 2003, during which the formal objection to the abbreviations was discussed. The Patent Examiner stated that an acceptable response would be to add to the U.S. Specification a list defining the abbreviations of the chemical compounds recited on pages 4 to 5 of the Specification.

The amendments to this patent application are as follows: The present specification on pages 1 and 3 were amended to include the required section headings. The specification on page 5 was amended to include a definition of all the abbreviations found on pages 4 and 5 of the Specification. The "Summary" page was revised to be a new "Abstract Of The Disclosure" on its own separate Page. A Marked-Up Version is enclosed. The abbreviation "SEP" was canceled from Page 5 of the Specification.

The amendments to the claims are as follows: Claim 14 is being amended to recite that the adhesive layer is always coextruded together with the plastic layer with the release properties. Claims 15 and 19 are being amended to cancel the objected to expression "or a similar material".

The objection to the claims and specification under 35 U.S.C. 112 is respectfully traversed, as follows. One skilled in the art would understand how the plastic layer with the release properties is formed or made. Examples of plastic materials are set forth on page 4 of the present Specification.

The manner by which the release properties of the release layer are produced is understood by those skilled in the art. The release properties nonetheless can be produced, for example by admixing a silicone oil or the like.

The associated description, in the Specification, provides one skilled in the art with the appropriate instructions for carrying out the method of the invention.

For the purpose of clarifying the invention, the present claim 14 is being amended to recite the feature that the adhesive layer is always coextruded together with the release layer.

This coextrusion can take place in accordance with the embodiments of the invention either between two carrier layers, together with a carrier layer extruded onto an existing carrier layer, or together with a least two carrier layers, in which case one carrier layer is then joined with the adhesive and other carrier layer is joined with the release layer.

The objected to wording "or similar material" in claim 15 means that also cardboard or similar materials may be involved in addition to paper. The same applies to claim 19. These terms have been canceled. Withdrawal of this ground of rejection under 35 U.S.C.112 is respectfully requested.

The Applicant comments upon the prior art rejection of the claims as follows.

The present invention is directed to a process for the production of a multilayer composite material (1, 21) with a plastic layer (4, 24) that has release properties with respect to adhesives, comprising locating the materials producing the release properties within the plastic layer, wherein a first web (2, 22) is provided in production of the composite material (1, 21) on one side of which a layer of adhesive (3, 23) is located and, said adhesive layer, is always coextruded together with the plastic layer (4, 24) with the release properties, which is in turn bonded

to a second web (5, 25).

The present invention is also directed to a multilayer composite material produced in accordance with the above process, wherein a first web (2, 22) and at least a second web (5, 25) are provided, between which a layer of adhesive (3, 23) and a further layer (2, 24) that has release properties with respect to the adhesive are located.

The present invention is based upon producing a multilayer composite material in which at least one desired release layer (4, 24) is always coextruded together with the adhesive layer (3, 23).

This coextrudate either can be extruded onto a carrier layer or it can be coextruded together with the carrier layer. It is possible also to coextrude the entire composite comprising the first web, the adhesive layer, the release layer and the second web. However, what is decisive is the joint coextrusion of the adhesive layer and the release layer.

This substantially distinguishes the present invention from the *Duncan* prior art patent, which only describes a coextrusion of a carrier layer and an adhesive layer, or a coextrusion of a carrier layer and a release layer. The coextrusion of a composite comprising an adhesive layer and the associate release layer is not

taught or suggested.

More particularly, the *Duncan U.S. Patent No. 4,626,460* in column 1 in lines 38 to 61 discusses producing a biaxially oriented label stock product possessing a facing layer having a pressure sensitive adhesive material incorporated therein or applied to the surface thereof coextruded with, and peelably affixed to, a release layer having a release material incorporated therein or applied to the surface thereof adjacent to the facing layer. In addition, there is provided a biaxially oriented label stock product which comprises:

(a) a facing layer in the form of a polyolefin film having an upper surface and a lower surface, a pressure sensitive adhesive component incorporated within said facing layer or applied as a coating to the lower surface thereof; and,

(b) a release layer in the form of a polyolefin film having an upper surface and a lower surface and having a release agent component for the pressure sensitive adhesive component of facing layer (a) incorporated therein or applied as a coating to the upper surface thereof, the lower surface of facing layer (a) being peelably affixed to the upper surface of said release layer (b).

This *Duncan* fails to teach or suggest the claimed coextrusion of the adhesive layer with the release layer.

Pedginski U.S. Patent No. 5,807,632 in column 3 in lines 15 to 23 discloses a release coated film, an adhesive tape comprising a release coated film, and processes for preparing the same. The fluoropolymer release coating in all embodiments of *Pedginski* comprises a graft copolymer of (a) a base polymer containing polymerized units derived from monomers that contain terminal olefinic double bonds and (b) a moiety comprising a fluoroaliphatic group is grafted to a base polymer.

Pedginski in column 3 line 63 to column 4 line 12 discloses a process for preparing a film. The process comprises the steps of:

(a) providing an extrudable polymer backing material and an extrudable release material comprising a fluorochemical graft copolymer of:

(i) a base polymer containing polymerized units derived from monomers having terminal olefinic double bonds and

(ii) a moiety comprising a fluoroaliphatic group;

(b) forming at least one molten stream of the polymer backing material and at least one molten stream of the release material;

(c) combining the molten streams into a unified multilayer structure having at least one surface of the fluoropolymer release material; and

(d) cooling the unified structure.

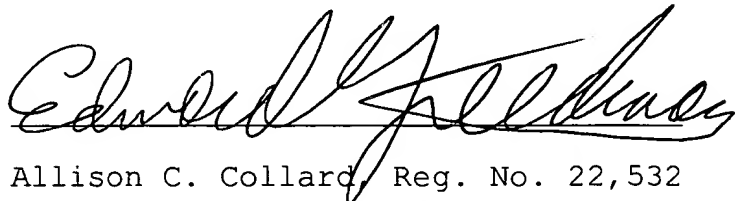
Thus *Pedginski*, fails to teach or to suggest any coextrusion of the claimed composite. *Pedginski* always discloses that the adhesive is coated onto the release layer. There is neither any suggestion of the present invention based upon any combination of *Pedginski* and *Duncan*.

For all of the above reasons, none of the references provide an identical disclosure of the claimed invention. Hence the present invention is not anticipated under 35 U.S.C. 102. Also, the present invention is not rendered obvious under 35 U.S.C. 103 by any combination of prior art references. Withdrawal of these grounds of rejection is respectfully requested.

In summary, claims 14, 15 and 19 have been amended. Claims 14 to 26 are pending. In view of these amendments, it is firmly believed that the present invention and all the claims are now in condition for allowance. A prompt notification of allowability is respectfully requested.

Respectfully submitted,

WALTER GÜNTHER - 2- PCT

A handwritten signature in cursive script, appearing to read "Edward R. Freedman", written over a horizontal line.

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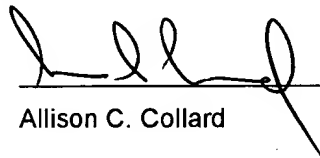
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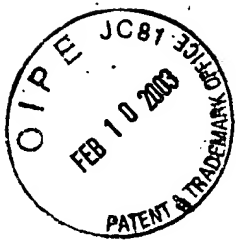
Enclosure: 1. New Abstract Of The Disclosure
 2. Marked-Up Version Of Amended Claims
 3. Marked-Up Version Of Amended Abstract
 4. Marked-Up Version Of Amended Specification
 5. Copy Petition three Month Extension Of Time
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: ASSISTANT COMMISSIONER OF PATENTS, Washington, D.C. 20231, on February 7, 2003.


Allison C. Collard

ABSTRACT OF THE DISCLOSURE

Process for the production of a multilayer composite material with a plastic layer that has release properties with respect to adhesives, where the materials producing the release properties are located within the plastic layer, where a first web is provided in production of the composite materia on the one side of which a layer of adhesive is located, after which the plastic layer with the release properties follows, which is in turn bonded to a second web.



MARKED UP VERSION OF AMENDED

CLAIMS, ABSTRACT AND SPECIFICATION

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14. (Amended) A process for the production of a multilayer composite material (1,21) with a plastic layer (4,24) that has release properties with respect to adhesives comprising.

locating [where the] materials producing the release properties [are located] within the plastic layer, wherein a first web (2,22) is provided in production of the composite material (1, 21) on one side of which a layer of adhesive (3,23) is located and said adhesive layer is always coextruded together with [after which] the plastic layer (4,24) with the release properties [will follow], which is in turn bonded to a second web (5,25).

15. (Amended) Process according to claim 14, wherein a web of paper [or a similar material] is provided as the first web (2,22).

19. (Amended) Process according to claim 14, wherein a web of paper [or a similar material] is provided as the second web (5, 25).



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Fo7264PCT

Multilayer composite material

4P Folie Forchheim GmbH

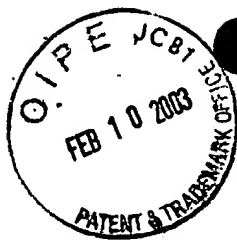
Summary

Process for the production of a multilayer composite material and the composite material produced by this process

ABSTRACT OF THE DISCLOSURE

Process for the production of a multilayer composite material with a plastic layer that has release properties with respect to adhesives, where the materials producing the release properties are located within the plastic layer, where a first web is provided in production of the composite material on one side of which a layer of adhesive is located, after which the plastic layer with the release properties follows, which is in turn bonded to a second web.

Fig. 1



Fo7264PCT

4P Folie Forchheim GmbH

Multilayer composite material

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Description

Process for the production of a multilayer composite material and the composite

material produced by this process

CROSS-REFERENCE

BACKGROUND OF THE INVENTION

1 The invention relates to a process for the production of a multilayer composite material
2 with a plastic layer that has release properties with respect to adhesives, where the
3 materials producing the release properties are located within the plastic layer.

SUMMARY OF THE INVENTION

4 The purpose of the invention is to indicate a process with which a composite material can be produced efficiently from a first web that can be designed to be a substrate web, an adhesive, a release layer and a second web that can also be designed to be a substrate web for the release layer.

In the solution to this problem proposed by the invention, a first web is provided in production of the composite material on one side of which a layer of adhesive is located, after which the plastic layer with the release properties will follow, which is in turn bonded to a second web.

It is also very advantageous if in accordance with a further development of the invention a web which is pre-produced from plastic is oriented before it is used.

In accordance with an advantageous development of the invention, a multilayer composite material is characterised by the fact that a first web and at least a second web are provided, between which a layer of adhesive and a further layer that has release properties with respect to the adhesive are located.

In a further advantageous development of the multilayer composite material, further layers are provided that are located on the outside of the first web and/or the second web.

It has also proved to be very advantageous if in accordance with a further development of the invention the first and/or second web are made from an oriented plastic film.

BRIEF DESCRIPTION OF THE DRAWINGS

Two embodiments of the invention are illustrated in the drawings:

Fig. 1 shows a four-layer composite material with a web of paper as the substrate web and

Fig. 2 shows a five-layer composite material, in which a nonwoven fabric is provided as the substrate web for the adhesive layer.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

1 in Fig. 1 is a composite material that includes a first web 2 made of paper. A layer of adhesive 3, a layer 4 that has release properties with respect to the adhesive and a plastic layer 5 have been applied to this paper web 2 by the coextrusion process. The other side of the paper web 2 can be provided with other coatings in the same process operation too.

A composite material 21 consisting of five layers is provided in the embodiment shown in Fig. 2, where the first web 22 is made from a nonwoven fabric. Different web

Possible adhesives are extrudable, permanently tacky adhesives based on hotmelts and polyolefins with appropriate tackifying additives. SIS, SBS, ^{and} SEBS [and SEP] block copolymers with melt indices of between 8 and 65 g / 10 min at 200° C and 5 kg have, for example, been used. The styrene content of the polymers varies between 10 and 35%. The properties of the adhesive layer are controlled by the addition of resins and plasticisers, e.g. by means of aliphatic hydrocarbon resins, polyterpene resins, hydrolysed hydrocarbon resins, aromatic hydrocarbon resins, paraffin waxes, microcrystalline waxes, polyisobutylene and process oils.

Liquid components are processed into an extrudable form by carrying out a compounding operation beforehand.

Another way to produce the adhesive layer involves the inclusion of UV acrylates or UV-cured PSAs between the other layers by using melt transport technology.

-- The above-mentioned abbreviations are defined as follows:
etc.